

GRINDELIA VILLARREALII (ASTERACEAE: ASTEREAEE), A NEW SPECIES FROM NORTHEASTERN MEXICO

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ABSTRACT

A new species of *Grindelia* is described from the Peña Nevada area of southeastern Nuevo León: *G. villarrealii*. It is closely related to *G. turneri*, also endemic to the Sierra Madre Oriental, and is apparently its evolutionary vicariad.

KEY WORDS: *Grindelia*, Astereae, Asteraceae, New Mexico, Texas

Since an earlier conspectus of problematic Mexican *Grindelia* (Nesom 1990), variation in recent collections from the Sierra Madre Oriental of Nuevo León and Coahuila has received careful attention. Almost all of them have been placed within the bounds of taxa delimited earlier, but one additional species must be recognized.

Grindelia villarrealii Nesom, *sp. nov.* TYPE: MEXICO. Nuevo León: Mpio. Zaragoza, ca. 2-3 mi N of Siberia on road to Zaragoza from San Antonio de Peña Nevada; broad valley, ca. 2500 m, area of oaks and aspen at the bottom (N-facing margin) and agave-scrub on the SW-facing slope, the *Grindelia* around the aspen grove, scattered but common at base of the slope in deep soil; 26 Aug 1989, *G. Nesom 7149* with M. Carranza, J. Norris, and J. Villarreal (HOLOTYPE: TEX; Isotypes: ANSM, MEXU).

Grindelieae turneri Nesom duratione perenni, caulibus glabris vel glabratis, foliis non-punctatis, et acheniis monomorphis rasilibus vel tantum sculptis similis sed foliorum dentibus induratis non-glandulosisque et aristis pappi brevioribus carinatisque marginibus ciliolatis differt.

Short lived perennial or biennial herbs from a distinct taproot. Stems erect or basally ascending, 3-5 cm tall, ca. 5-8 stems arising from the base, each with 1-3 branches above the lower third, glabrous or with a few small, scattered hairs, eglandular. Leaves not punctate, glabrous to minutely puberulent with glands and barely perceptible hairs, margins serrate with blunt to acute, eglandular, white indurated teeth, not scabrous, the basal and lower cauline 5-8 cm long, petiolate with obovate blades, the upper cauline 15-30 cm long, 5-9 mm wide at midstem, oblong oblanceolate to oblong, epetiolate, subclasping to clasping, slightly or not at all auriculate, only slightly reduced upwards and continuing to immediately beneath the heads. Heads 13-15 mm wide, solitary; phyllaries linear-lanceolate, green in the upper 1/2-1/4, not punctate, with apices erect or spreading, in 3-4 strongly graduated series, the inner 8-9 mm long, the outer 1/2-1/3 as long. Ray flowers 20-31, yellow, the corollas (including tube) 11-13 mm long, ligules distinctly coiling. Disc corollas 5-6 mm long, abruptly ampliate in the upper half. Achenes 3.0-3.5 mm long, monomorphic, somewhat 4 angled but compressed, the fruit wall slightly longitudinally rugose at maturity; pappus awns 2, with distinctly scabrous-ciliate margins and a narrow keel at least on the lower third, easily caducous, about as long as the disc corollas. Known only from the type collection.

The new species is named for Jose Villarreal, Curator of Herbarium ANSM in Saltillo, in recognition of his continuing studies and valuable collections of the flora of northeastern México.

Grindelia villarrealii apparently is most closely related to *G. turneri*. The two species are similar in their perennial duration, glabrous to glabrate stems, nonpunctate, nearly glabrous to minutely glandular puberulent leaves, and monomorphic, barely sculptured achenes. The new species differs (from *G. turneri*) in its leaves with indurated, nonglandular teeth (vs. glandular) and its shorter, keeled pappus awns with scabrous-ciliate margins (vs. longer than the disc corollas, unkeeled, with smooth margins). *Grindelia turneri* is restricted to large valleys immediately north and northwest of Cerro Potosí (Nuevo León) and is separated by about 130-140 kilometers from the locality of *G. villarrealii*. Other pairs of taxa in various families with similar geographic distributions are known to be related as evolutionary vicariads (McDonald 1992).

Grindelia villarrealii and *G. turneri* are peripherally related to the "*G. oxylepis* E. Greene group" (Nesom 1990) but differ in their montane habitats (vs. low elevation), minutely puberulent foliar vestiture (vs. completely glabrous), and abruptly ampliate disc corollas (vs. tubular). The only other species of *Grindelia* besides *G. villarrealii* known from the Peña Nevada area are *G. obovatifolia* S.F. Blake and *G. greenmanii* Steyererm. The first differs from *G. villarrealii* in its rhizomatous habit, lightly villous stems, mostly obovate leaves with gland tipped teeth, and phyllaries with linear, sharply reflexing to nearly coiling apices; the second differs most conspicuously from *G. villar-*

realii in its stipitate glandular leaves, villous stems, leaves with gland tipped foliar teeth, and more herbaceous, nearly equal phyllaries.

Grindelia villarrealii is also at least superficially similar to *G. inuloides* Willd., which occurs in central Nuevo León, although its center of distribution is much further south (Nesom 1990). The latter species differs most prominently from *G. villarrealii* in its villous stems, leaves with distinctly sharp pointed teeth, the upper cauline strongly reduced and triangular lanceolate to linear, its shorter (4-5 mm long) disc corollas, achene walls with a strong tendency to produce transverse incisions near the apex, and smooth edged pappus awns.

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LITERATURE CITED

- McDonald, A.J. 1992. Phytogeography of the alpine-subalpine flora of north-eastern Mexico. In T.P. Ramamoorthy, R. Bye, A. Lot, & J. Fa (eds.), *Biological Diversity of Mexico: Origins and Distribution*. Oxford Press, New York, New York.
- Nesom, G.L. 1990. Studies in the systematics of Mexican and Texan *Grindelia* (Asteraceae: Astereae). *Phytologia* 68:303-332.